

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (CANCELLED)
2. (CANCELLED)
3. (CANCELLED)
4. (CANCELLED)
5. (CANCELLED)
6. (CANCELLED)
7. (CANCELLED)
8. (CANCELLED)
9. (CANCELLED)
10. (CANCELLED)
11. (CANCELLED)
12. (CANCELLED)

13. (Currently Amended) A bipolar semiconductor device including:

a substrate in which a surface having a specified off-angle from a (000-1) carbon surface of a crystal of a first-conductive-type silicon carbide semiconductor whose base material is silicon carbide, which is a compound of carbon and silicon, is formed; and

at least one drift layer which is formed on ~~the surface a crystal growth surface of~~ the substrate at a specified formation rate with a first- or second-conductive-type silicon carbide semiconductor, where the surface of the substrate having the ~~off-angle within a range of 2 to 10 degrees from the (000-1) carbon surface specified off-angle is taken as~~ the crystal growth surface of the substrate.

14. (Previously Presented) The bipolar semiconductor device as claimed in claim 13, further including

at least one layer of a first- or second-conductive-type silicon carbide semiconductor formed on the drift layer.

15. (Previously Presented) The bipolar semiconductor device as claimed in claim 13, wherein

the substrate serves as a cathode and

the bipolar semiconductor device further includes a semiconductor layer which is formed on the drift layer and which is of a second-conductive-type silicon carbide to serve as an anode.

16. (Withdrawn) A bipolar semiconductor device including:

a substrate which is to serve as a collector and in which a surface having a specified off-angle from a (000-1) carbon surface of a crystal of a first-conductive-type silicon carbide semiconductor whose base material is silicon carbide, which is a compound of carbon and silicon, is formed;

a drift layer which is formed on a crystal growth surface of the substrate at a specified film growth rate by epitaxial growth of a first-conductive-type silicon carbide, where the surface of the substrate having the specified off-angle is taken as the crystal growth surface of the substrate;

a second-conductive-type base layer formed on the drift layer; and

a first-conductive-type emitter layer formed on part of the base layer.

17. (Withdrawn) A bipolar semiconductor device including:

a substrate which is to serve as a collector and in which a surface having a specified off-angle from a (000-1) carbon surface of a crystal of a first-conductive-type silicon carbide semiconductor whose base material is silicon carbide, which is a compound of carbon and silicon, is formed;

a drift layer which is formed on a crystal growth surface of the substrate at a specified film growth rate by epitaxial growth of a silicon carbide, where the surface of the substrate having the specified off-angle is taken as the crystal growth surface of the substrate;

a first-conductive-type grown layer formed on the drift layer;

a second-conductive-type emitter layer formed on the first-conductive-type grown layer;

a contact region formed by ion implantation into the first-conductive-type grown layer via a through hole formed in the second-conductive-type emitter layer; and

a gate electrode formed via an insulating film on the first-conductive-type grown layer and the second-conductive-type emitter layer.

18. (Cancelled)

19. (Previously Presented) The bipolar semiconductor device as claimed in claim 14, wherein

the film that is to serve as a drift layer and that is formed by epitaxial growth of silicon carbide is formed at a film growth rate having a film-thickness increasing rate per hour  $h$  of 10  $\mu\text{m}/h$  or more.

20. (Previously Presented) The bipolar semiconductor device as claimed in claim 13, further including

a buffer layer formed between the substrate and the drift layer.

21. (Withdrawn) A manufacturing method for a bipolar semiconductor device comprising the steps of:

forming a substrate by cutting a crystal of a first-conductive-type silicon carbide semiconductor whose base material is silicon carbide, which is a compound of carbon and silicon, by a surface having a specified angle with respect to a (000-1) carbon surface

of the crystal;

forming a drift layer on a crystal growth surface of the substrate at a specified film growth rate by epitaxial growth of a first-conductive-type silicon carbide, where the surface of the substrate having the specified angle is taken as the crystal growth surface; and

forming at least one layer of a first- or second-conductive-type silicon carbide semiconductor on the drift layer.

22. (Withdrawn) The bipolar semiconductor device manufacturing method as claimed in claim 21 wherein

the specified angle is within a range of 2 to 10 degrees.

23. (Withdrawn) The bipolar semiconductor device manufacturing method as claimed in claim 21, wherein

a film-thickness increasing rate per hour  $h$  in the step of forming the drift layer is  $10\text{ }\mu\text{m/h}$  or more.

24. (Withdrawn) The bipolar semiconductor device manufacturing method as claimed in claim 21, further comprising a step of:

forming a buffer layer between the substrate and the drift layer.